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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,010

08/21/2006

Kenji Tamada

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EXAMINER

KRAUSE, JUSTIN MITCHELL

ART UNIT

PAPER NUMBER

3656

MAIL DATE

DELIVERY MODE

07/23/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,010	<b>Applicant(s)</b> TAMADA ET AL.	
	<b>Examiner</b> JUSTIN KRAUSE	<b>Art Unit</b> 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/13/09</u> .   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what applicant considers a "wavy-shaped" cage, as it cannot be determined what shape or profile of the cage is being defined. Wavy-shaped is subject to numerous interpretations which would yield different resulting structures. It cannot be determined what the cage is shaped like from the claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, and 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikezawa et al (US Patent 5,630,668) in view of Pitner (US Patent 3,163,478).

Ikezawa discloses a thrust needle bearing employing lubricating oil having a rolling element (NR) held by a cage (see Fig. 2, for example), wherein the value of the

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arithmetic average roughness Ra of the rolling element is set to at least .03 micrometers and at most .15 micrometers (see claim 7).

Ikezawa does not disclose a range for the clearance.

Pitner teaches a clearance between a pocket guide surface and roller which is necessary to allow for a lubricating wedge of oil (col. 2, lines 53-56). The clearance required is a result dependant variable which is determined based upon the oil selected and the desired lubricating properties.

Regarding claims 2 and 3, Claim 7 of Ikezawa discloses that at least one of the cage, the race and the roller has a roughness of .05 Ra or less, satisfying the claimed ranges.

Regarding claims 4 and 5, the incorporation of the bearing into a particular device or environment is not itself patentable. The structure of the device is the same as disclosed, and may be placed into any environment.

Ikezawa explicitly discloses the bearing is for use in an air conditioner compressor (col. 1, line 21), and the device is also capable of being incorporated into any other device, including an automatic transmission.

Claims 6, 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pitner (US Patent 3,163,478).

Pitner discloses a thrust needle bearing employing lubricating oil and having a rolling element (10) held by a cage (2) wherein a clearance exists between a pocket guide face of the cage and the rolling element.

Pitner does not disclose a range for the clearance.

Pitner teaches a clearance between a pocket guide surface and roller which is necessary to allow for a lubricating wedge of oil (col 2, lines 53-56). The clearance required is a result dependant variable which is determined based upon the oil selected and the desired lubricating properties.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pitner to select a clearance range of 60 to 130 micrometers between the pocket guide face and roller for the desired purpose of allowing for a lubricating wedge of oil which achieves the desired lubricating characteristics.

Regarding claim 7, the cage is a wavy-shaped cage (profile, figure 7).

Regarding claims 9 and 10, the incorporation of the bearing into a particular device or environment is not itself patentable. The claims recite no particulars of the structure of the combination, the bearing of Pitner is capable of being incorporated into any device and bringing with it all the advantages of the improved bearing design.

### ***Response to Arguments***

Applicant's arguments filed April 23, 2009 have been fully considered but they are not persuasive.

Applicant argues Pitner does not disclose the range as recited in claims 6 and 8. Applicant's arguments are based on information which is not found within the Pitner reference and is not supported by any other evidence. Applicant's arguments are based upon a 3mm roller diameter, a feature which is not claimed, nor recited anywhere within the Pitner reference. The origin of the statement that the "pocket required to provide the wedging effect must be equal to or smaller than 6 micrometers" for a 3mm roller is also unclear. There is no evidence showing a relationship between dimensions. The Pitner reference teaches that the clearance should be selected to allow for a lubricating wedge of oil. This teaching is not restricted to any particular size of bearing, and the claim is also not restricted to any particular size of bearing. Even if the claim were dependent on a ratio between the clearance and the diameter, since Pitner is applicable to all sizes of bearings, a bearing diameter exists which would require a 60-130 micrometer clearance to allow for a lubricating wedge of oil.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN KRAUSE whose telephone number is (571)272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Justin Krause/  
Examiner, Art Unit 3656

/Thomas R. Hannon/  
Primary Examiner, Art Unit 3656